

whitedriveproducts





SERIES

- 350 -
- 351 -
- 355 -
- 356 -
- 357 -
- 358 -



WS (All Series)

For Medium Duty Applications





OVERVIEW

The WS targets agricultural equipment, skid steer attachments, and other applications that require greater torque under demanding conditions. A distinguishing feature of the WS in relation to competitive products is its heavy duty drive link with a larger pitch diameter. This enables the WS to better withstand pressure and torque spikes and is reflected in its intermittent and peak performance ratings. Additional product features include a three zone commutator valve, heavy-duty tapered roller bearings, and case drain with integral internal drain*. The WS offers numerous housing, displacement and shaft options to meet most common SAE and European requirements.

FEATURES / BENEFITS

- Nine shaft and seven mounting options to meet the most common SAE and European requirements.
- Heavy- duty tapered roller bearings for extra side load capacity.
- Heavy-duty drive link with larger pitch diameter than competitors for greater resistance to pressure and torque spikes.
- Three zone commutator valve for high flow capacity.
- Standard case drain with integral internal drain* for extended shaft seal life.

TYPICAL APPLICATIONS

Medium-duty wheel drives, sweepers, grain augers, spreaders, feed rollers, brush drives, mowers, harvesting equipment gear box mounts and more

SPECIFICATIONS

CODE	Displacement	Max. : rp	Speed m	Max. Ipm	Flow gpm]	Max. 1 Nm [ōrque lb-in]		Max. Press bar [psi]	ure
	cin [in nev]	cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
080	79 [4.78]	870	1060	61 [16]	68 [18]	207 [1832]	286 [2528]	207 [3000]	276 [4000]	276 [4000]
100	100 [6.10]	745	880	76 [20]	95 [25]	280 [2475]	416 [3680]	207 [3000]	310 [4500]	310 [4500]
110	112 [6.85]	675	840	76 [20]	95 [25]	307 [2715]	468 [4145]	207 [3000]	310 [4500]	310 [4500]
130	129 [7.86]	580	730	76 [20]	95 [25]	370 [3275]	550 [4865]	207 [3000]	310 [4500]	310 [4500]
160	162 [9.90]	465	700	76 [20]	114 [30]	462 [4090]	618 [5465]	207 [3000]	276 [4000]	310 [4500]
200	202 [12.31]	375	560	76 [20]	114 [30]	576 [5100]	768 [6795]	207 [3000]	276 [4000]	310 [4500]
230	228 [13.92]	325	490	76 [20]	114 [30]	642 [5685]	806 [7135]	207 [3000]	276 [4000]	310 [4500]
320	325 [19.81]	235	350	76 [20]	114 [30]	789 [6980]	1029 [9105]	190 [2750]	224 [3250]	259 [3750]
400	399 [24.36]	190	280	76 [20]	114 [30]	816 [7225]	1034 [9150]	155 [2250]	190 [2750]	224 [3250]
500	496 [30.29]	155	230	76 [20]	114 [30]	824 [7295]	1041 [9210]	121 [1750]	155 [2250]	172 [2500]

Performance data is typical. Performance of production units varies slightly from one motor to another. Running at intermittent ratings should not exceed 10% of every minute of operation. * See page 14 for allowable back pressure when using the internal drain.

SERIES DESCRIPTIONS

350/351 - Hydraulic Motor

355/356 - Hydraulic Motor





357/358 - Hydraulic Motor Short Motor





heoi

retical

rpn

DISPLACEMENT PERFORMANCE



> Performance data is typical. Performance of production units varies slightly from one motor to another.

DELIVERING THE POWER TO GET WORK DONE

	129 cm ³ [7.	.9 in ³]/	/ rev	Intermitten	t Ratings are	below and t	o the right of	the BOLD lin	ne.	ntermittent F	Ratings - 10%	of Operation
[md	2 [0.5]		13 [114]	41 [367]	94 [830]							
pm [g	4 [1]		8 16 [144] 17	6 45 [400] 9	3 101 [890] 6	151 [1334]	201 [1780] 3	256 [2264] 3	306 [2706] 2			
- <u>Mol</u>	8 [2]		19 [172] 58	52 [456] 57	115 [1022] 55	180 [1592] 52	235 [2081] 50	294 [2600] 38	348 [3084] 35	402 [3560] 31	448 [3962] 22	477 [4219] 9
Ľ	15 [4]		21 [182] 117	53 [469] 116	117 [1037] 114	182 [1609] 111	246 [2175] 107	309 [2735] 101	369 [3265] 92	424 [3749] 80	480 [4249] 68	528 [4671] 53
	23 [6]		20 [174] 175	52 [460] 174	116 [1026] 172	180 [1591] 169	244 [2163] 165	308 [2730] 158	371 [3285] 148	427 [3783] 132	489 [4330] 117	547 [4837] 99
	30 [8]		17 [150] 234	49 [436] 233	113 [1004] 230	178 [1571] 227	242 [2143] 223	307 [2714] 215	370 [3276] 202	426 [3767] 186	488 [4322] 168	550 [4866] 147
	38 [10]		14 [120] 293	46 [403] 291	110 [974] 289	174 [1537] 285	238 [2109] 280	303 [2677] 272	367 [3246] 260	423 [3741] 240	486 [4305] 220	549 [4860] 197
	45 [12]		10 [86] 351	42 [367] 350	106 [935] 347	169 [1499] 343	234 [2069] 337	298 [2633] 329	362 [3204] 315	417 [3688] 289	482 [4264] 266	547 [4837] 243
	53 [14]		6 [53] 410	37 [329] 408	101 [891] 405	165 [1458] 401	229 [2027] 395	294 [2600] 385	349 [3092] 361	414 [3661] 341	478 [4230] 317	544 [4818] 289
	61 [16]			33 [289] 467	96 [853] 464	160 [1415] 460	224 [1979] 453	287 [2543] 442	344 [3048] 415	409 [3620] 392	474 [4195] 367	539 [4773] 338
	68 [18]				91 [803] 522	155 [1369] 518	219 [1934] 510	282 [2498] 499	340 [3007] 471	404 [3571] 448	469 [4147] 421	536 [4744] 389
Max. Cont	76 [20]				85 [753] 580	148 [1314] 575	212 [1879] 568	277 [2447] 556	335 [2960] 526	399 [3528] 503	464 [4108] 474	533 [4714] 441
	83 [22]				77 [681] 641	140 [1242] 637	204 [1805] 627	267 [2362] 613	332 [2938] 592	397 [3510] 567	461 [4076] 536	526 [4651] 504
	91 [24]				71 [625] 701	134 [1185] 696	198 [1751] 686	261 [2307] 672	325 [2872] 651	389 [3442] 625	453 [4011] 594	520 [4599] 563
Max. Inter	95 [25]				68 [601] 730	131 [1158] 726	195 [1722] 717	258 [2285] 703	322 [2849] 683	384 [3399] 657	450 [3986] 625	519 [4594] 589
	Rotor Width		Torque - Nm [lb-in], Speed	rpm		Over	all Efficiency	/ - 70 - 100	% 40	- 69%	0 - 39%
	25.4 [1.001]		35 [313]	71 [625]	141 [1251]	212 [1876]	283 [2502]	353 [3127]	424 [3753]	495 [4378]	565 [5004]	636 [5629]
	mm [in]		Theoretical To	orque - Nm [lb	-in]		Displace	ment tested a	at 54°C [129°F] with an oil v	iscosity of 460	St [213 SUS]

15	Theor
30	retica
59	rpm
118	
177	
236	
294	
353	
412	
471	
530	
588	
647	
706	

735

	Pressure - ba	ır [psi]					Max. Cont.			Max. Inter.
130	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	172 [2500]	207 [3000]	242 [3500]	276 [4000]	310 [4500]

	Pressure - ba	r [psi]					Max. Cont.			Max. Inter.
130	17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	172 [2500]	207 [3000]	242 [3500]	276 [4000]	310 [4500]

m [in]	Theoretical To	orque - Nm [lb	o-in]	Displace	ement tested a	t 54°C [129°F] with an oil v	iscosity of 46	cSt [213 SUS
	Drocouro ha	ur [noi]							
	Pressure - ba	ir [psi]				Max. Cont.			Max. Inter.

[.071]				 					
mm [in]	Theoretical To	orque - Nm [lb	o-in]	Displace	ement tested a	at 54°C [129°F] with an oil v	iscosity of 46	cSt [213 SU
	Pressure - ba	ır [psi]				Max. Cont.			Max. Inter

112 cm ³ [6.9	9 in³] /	rev	Intermitten	t Ratings are	below and t	o the right of	the BOLD lin	ne.	Intermittent I	Ratings - 10%	of Operation
2 [0.5]		12 [106] 9	38 [334] 8	86 [757] 6	132 [1166] 4						
4 [1]		12 [110] 17	38 [334] 10	89 [788] 8	137 [1213] 6	184 [1624] 5					
8 [2]		15 [129] 67	42 [373] 67	98 [863] 65	152 [1341] 62	206 [1823] 58	255 [2257] 45	297 [2629] 40	341 [3015] 36	377 [3334] 22	396 [3502] 9
15 [4]		15 [134] 135	43 [378] 135	97 [863] 133	152 [1350] 130	208 [1838] 125	261 [2314] 118	314 [2776] 107	357 [3158] 88	402 [3558] 71	438 [3879] 49
23 [6]		15 [128] 203	42 [373] 203	97 [856] 200	151 [1337] 196	206 [1826] 190	260 [2302] 182	313 [2770] 170	359 [3179] 143	411 [3633] 124	458 [4054] 103
30 [8]		12 [108] 269	40 [351] 267	94 [833] 265	148 [1313] 262	203 [1798] 258	258 [2281] 248	311 [2753] 234	359 [3177] 201	413 [3656] 178	466 [4122] 155
38 [10]		9 [80] 337	36 [322] 335	91 [803] 333	145 [1280] 331	199 [1761] 325	253 [2236] 313	307 [2715] 296	358 [3165] 255	413 [3652] 232	468 [4144] 206
45 [12]		8 [69] 404	33 [293] 403	87 [770] 401	141 [1247] 399	194 [1716] 391	249 [2205] 378	303 [2684] 360	353 [3124] 313	408 [3613] 289	467 [4133] 259
53 [14]		4 [38] 473	29 [254] 471	82 [728] 470	136 [1202] 465	189 [1676] 457	243 [2152] 442	294 [2605] 403	351 [3108] 376	407 [3601] 347	464 [4109] 316
61 [16]			24 [210] 540	78 [687] 538	131 [1162] 532	185 [1635] 523	239 [2114] 508	290 [2564] 467	346 [3058] 438	402 [3553] 406	462 [4092] 372
68 [18]			18 [163] 608	72 [639] 605	126 [1116] 599	180 [1594] 589	234 [2068] 573	286 [2534] 530	341 [3016] 502	397 [3515] 467	458 [4051] 432
76 [20]			13 [117] 675	68 [598] 673	121 [1068] 667	174 [1541] 656	228 [2017] 639	282 [2494] 594	336 [2977] 565	393 [3481] 528	454 [4017] 492
83 [22]				67 [596] 742	115 [1015] 735	169 [1500] 722	221 [1960] 699	276 [2445] 672	332 [2942] 637	388 [3436] 598	447 [3953] 557
91 [24]				62 [549] 808	109 [967] 801	164 [1452] 787	218 [1926] 767	272 [2403] 737	326 [2885] 702	383 [3385] 659	441 [3906] 620
95 [25]				60 [528] 841	105 [939] 834	161 [1425] 818	215 [1901] 800	270 [2389] 771	323 [2861] 736	380 [3361] 693	439 [3886] 648
Rotor Width		Torque - Nm [lb-in], Speed	rpm		Over	rall Efficiency	y - 70 - 100	% 40	- 69%	0 - 39%
22.1 [.871]		31 [273]	62 [545]	123 [1090]	185 [1635]	246 [2180]	308 [2726]	370 [3271]	431 [3816]	493 [4361]	554 [4906]
mm [in]		Theoretical To	orque - Nm [lb	-in]		Displace	ement tested a	at 54°C [129°F] with an oil v	iscosity of 46	St [213 SUS]

138 [2000]

Max. Cont.

207 [3000]

242 [3500]

276 [4000]

172 [2500]

DISPLACEMENT PERFORMANCE

17 [250]

Pressure - bar [psi]

35 [500]

69 [1000]

104 [1500]

WS (All Series) For Medium Duty Applications

110

Flow - Ipm [gpm]

Max Cont

Max. nter

4



Max. Inter

310 [4500]



Theoretical rpm

675 742 810

844



[mdg	2 [0.5]		20 [173] 11	55 [485] 10	125 [1102] 8	190 [1679] 6	255 [2258] 5						I F	12	Theo
] mq	4 [1]		22 [199] 23	59 [523] 22	135 [1194] 20	207 [1831] 18	274 [2425] 15	338 [2989] 13	397 [3511] 9					24	oretica
- MO	8 [2]		32 [283] 47	63 [554] 45	144 [1273] 43	223 [1974] 41	298 [2635] 37	368 [3255] 34	433 [3830] 29	480 [4251] 21	504 [4459] 16	527 [4664] 10		47	l rpm
ш	15 [4]		31 [278] 94	69 [609] 94	145 [1287] 91	228 [2014] 88	308 [2728] 84	388 [3416] 79	460 [4071] 71	526 [4654] 59	557 [4931] 53	583 [5163] 45		94	
	23 [6]		29 [257] 140	69 [615] 138	143 [1265] 136	225 [1990] 135	306 [2711] 130	386 [3412] 124	464 [4108] 116	535 [4737] 100	573 [5074] 93	607 [5370] 83		140	
	30 [8]		26 [226] 186	66 [583] 185	138 [1225] 184	221 [1958] 182	303 [2678] 177	383 [3387] 170	462 [4088] 160	538 [4761] 144	578 [5116] 135	617 [5463] 125	I [187	
	38 [10]		21 [188] 234	62 [547] 233	133 [1180] 232	216 [1914] 230	298 [2633] 224	379 [3353] 217	458 [4055] 206	534 [4730] 189	575 [5085] 180	616 [5451] 168		234	
	45 [12]		16 [145] 280	57 [509] 278	135 [1192] 276	210 [1861] 274	292 [2581] 270	372 [3289] 261	452 [4000] 250	530 [4688] 234	570 [5046] 224	613 [5423] 212		280	
	53 [14]		11 [97] 327	51 [455] 326	133 [1178] 325	205 [1817] 323	286 [2530] 316	365 [3231] 307	441 [3905] 293	523 [4627] 274	563 [4986] 264	606 [5363] 251		327	
	61 [16]		5 [44] 374	45 [402] 372	125 [1110] 371	199 [1761] 370	280 [2474] 363	359 [3173] 353	436 [3857] 338	517 [4572] 319	557 [4934] 308	599 [5301] 295		374	
	68 [18]			37 [331] 420	118 [1048] 419	192 [1697] 417	272 [2408] 410	351 [3104] 400	427 [3779] 383	508 [4498] 363	548 [4853] 353	592 [5240] 339		420	
Max. Cont	76 [20]			30 [265] 467	111 [980] 466	183 [1616] 465	264 [2337] 457	343 [3036] 446	419 [3712] 428	500 [4424] 408	540 [4777] 396	584 [5167] 382		467	
	83 [22]			22 [193] 514	103 [913] 512	176 [1557] 510	256 [2264] 503	335 [2965] 491	413 [3658] 476	492 [4358] 454	533 [4721] 441	575 [5093] 427		514	
	91 [24]					175 [1553] 558	246 [2180] 550	327 [2890] 538	405 [3587] 522	484 [4286] 500	524 [4639] 484	568 [5027] 473		560	
	95 [25]					163 [1443] 581	241 [2134] 573	321 [2843] 561	400 [3543] 545	481 [4253] 522	521 [4611] 511	561 [4968] 496		584	
Max Inter	114 [30]					138 [1222] 699	691	296 [2618] 679	376 [3324] 661	456 [4034] 645	495 [4383] 625	534 [4729] 609		700	
	Rotor Width		Iorque - Nm [ib-inj, Speed	rpm		Over	rall Efficiency	/ - 70 - 100	% 40	- 69%	0 - 39%			
	31.8 [1.251]		45 [394]	89 [788]	178 [1576]	267 [2363]	356 [3151]	445 [3939]	534 [4727]	623 [5515]	668 [5909]	712 [6303]			
•	mm [in]		Theoretical To	orque - Nm [lb	-in]		Displace	ment tested a	t 54°C [129°F] with an oil v	iscosity of 46	cSt [213 SUS]			
			Pressure - ba	r [psi]						Max. Cont.		Max. Inter.			
	200		17 [250]	35 [500]	69 [1000]	104 [1500]	138 [2000]	172 [2500]	190 [2750]	207 [3000]	242 [3500]	276 [4000]			
							1								
	200 cm ³ [12	l 2.2 in ³]] / rev	Intermitten	t Ratings are	below and t	o the right of	the BOLD lii	ne.	Intermittent F	Ratings - 10%	6 of Operation	1		
gpm]	200 cm ³ [12 2 [0.5]	 2.2 in ³]] / rev 28 [249] 8	Intermitten 72 [638] 7	t Ratings are 157 [1388] 5	below and t	o the right of	the BOLD lii	ne.	Intermittent F	Ratings - 10%	of Operation	, [10	Theo
[mdb] md	200 cm ³ [12 2 [0.5] 4 [1]	1 2.2 in ³]	28 [249] 8 33 [291] 18	Intermitten 72 [638] 7 81 [713] 17	t Ratings are 157 [1388] 5 170 [1508] 14	254 [2250]	o the right of 335 [2961] 9	the BOLD lin 411 [3636] 5	ne. 454 [4019] 4	Intermittent F 508 [4498] 6	Ratings - 10%	6 of Operation		10 19	Theoretica
-low - lpm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34	254 [2250] 12 280 [2474] 31	o the right of 335 [2961] 9 365 [3232] 27	the BOLD lin 411 [3636] 5 446 [3948] 23	454 [4019] 483 [4279] 20	Intermittent F 508 [4498] 6 521 [4609] 17	Ratings - 10%	6 of Operation		10 19 38	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72	254 [2250] 12 280 [2474] 31 289 [2554] 69	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 59	454 [4019] 4 483 [4279] 20 523 [4627] 56	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51	Ratings - 10%	6 of Operation		10 19 38 76	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110	254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 59 486 [4299] 95	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90	Intermittent R 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67	6 of Operation 696 [6156] 25 732 [6478] 54		10 19 38 76 113	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 59 486 [4299] 95 484 [4285] 131	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90 534 [4722] 126	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99	6 of Operation 6 096 [6156] 25 732 [6478] 54 755 [6685] 85		10 19 38 76 113 151	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1544] 186	below and t 254 [2250] 12 280 [2474] 389 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 95 486 [4299] 95 484 [4285] 131 479 [4240] 167	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90 534 [4722] 126 529 [4683] 161	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99 674 [5965] 134	6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116		10 19 38 76 113 151 188	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 180 [1593] 148 174 [1544] 186 168 [1491] 224	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 59 484 [4295] 131 479 [4240] 167 473 [4190] 204	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90 534 [4722] 529 [4603] 161 520 [4600] 194	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 577 [5064] 185	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 670 [5930] 99 674 [5965] 134 670 [5930] 169	6 of Operation 6 of Operation 6 9 6 [6156] 25 7 32 [6478] 54 7 55 [6685] 85 7 68 [6793] 116 7 67 [6789] 150		10 19 38 76 113 151 188 226	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 10 180 [1593] 148 174 [1544] 186 168 [1491] 224 163 [1439] 261	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 251	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 95 486 [4299] 95 484 [4285] 131 479 [4240] 167 473 [4190] 204 465 [4111] 241	454 [4019] 4 483 [4279] 20 523 [4627] 563 [4721] 90 534 [4722] 126 529 [4683] 161 520 [4600] 194 513 [4537] 229	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 577 [5064] 185 563 [4980] 222	Ratings - 10% 568 [5024] 3 627 [5548] 67 670 [5931] 99 674 [5965] 134 670 [5930] 169 664 [5880] 205	6 of Operation 6 of Operation 696 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186		10 19 38 76 113 151 188 226 263	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1544] 186 168 [1491] 224 163 [1439] 261 159 [1409] 299	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289	the BOLD lin 411 [3636] 5 446 [3948] 486 [4254] 59 486 [4299] 95 484 [4285] 131 479 [4240] 167 473 [4190] 204 465 [4111] 241 454 [4022] 273	454 [4019] 4 483 [4279] 20 523 [4627] 523 [4721] 90 934 [4722] 126 529 [4683] 161 520 [4683] 161 520 [4683] 194 513 [4537] 229 506 [4477] 266	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99 674 [5965] 134 670 [5930] 169 664 [5880] 205 656 [5809] 238	6 of Operation 6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 16 767 [6789] 150 764 [6765] 186 756 [6688] 219		10 19 38 76 113 151 188 226 263 301	Theoretical rpm
Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 10 180 [1593] 148 174 [1544] 186 168 [1491] 224 163 [1439] 261 159 [1409] 299 153 [1358] 336	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 102 387 [3425] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289 347 [3067] 327	the BOLD lin 411 [3636] 5 446 [3948] 23 481 [4254] 59 486 [4285] 131 479 [4240] 167 473 [4190] 204 465 [4111] 241 454 [4022] 273 447 [3955] 310	454 [4019] 4 483 [4279] 20 523 [4627] 523 [4721] 90 533 [4722] 126 529 [4683] 161 520 [4600] 194 513 [4537] 229 506 [4477] 226 493 [4363] 302	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 150 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257 547 [4838] 294	Ratings - 10% 568 [5024] 3 627 [5548] 67 670 [5931] 99 674 [5965] 134 670 [5930] 134 670 [5930] 169 664 [5880] 205 656 [5809] 238 648 [5731] 274	6 of Operation 6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253		10 19 38 76 113 151 188 226 263 301 338	Theoretical rpm
Max. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 60 [530] 67 [593] 262 60 [530] 50 [446] 338 41 [363] 376	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1544] 224 163 [1439] 261 159 [1409] 299 153 [1358] 336 144 [1277] 374	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3343] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289 347 [3067] 327 336 [2977] 365	the BOLD lin 411 [3636] 5 446 23 481 484 [4254] 9 5 484 [4285] 131 479 473 [4240] 67 473 445 [4111] 241 452 453 [4022] 273 447 437 [3868] 348 348	454 [4019] 4 483 [4279] 20 523 [4627] 533 [4721] 90 534 [4722] 126 529 [4683] 161 520 [4637] 194 513 [4537] 229 506 [4477] 266 493 [4363] 302 487 [4305] 340	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257 547 [4838] 294 537 [4754] 331	Solution Solution 568 [5024] 3 627 627 [5548] 38 654 654 [5963] 99 674 670 [5930] 134 670 670 [5930] 169 664 656 [5809] 238 648 648 [5731] 274 637 637 [5639] 311 274	6 of Operation 6 of Operation 6 996 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288		10 19 38 76 113 151 188 226 263 301 338 376	Theoretical rpm
Max. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22]	2.2 in³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 180 [1593] 148 174 [1544] 186 168 [1491] 224 163 [1439] 261 159 [1409] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2486] 144 276 [2446] 182 270 [2385] 220 263 [2324] 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289 347 [3067] 327 336 [2977] 365 326 [2888] 403	the BOLD lin 411 [3636] 5 346 23 481 481 [4254] 59 486 486 [4299] 95 31 479 [4240] 167 473 446 [4111] 204 465 454 [4022] 273 310 437 [3868] 348 427 427 [3783] 385 385	Jack [4019] 4 43 [427] 20 523 [4627] 56 533 [4721] 90 534 [4722] 126 529 [4683] 161 520 [4683] 520 [4683] 161 520 [4683] 163 506 [4477] 266 493 [4363] 302 487 [4305] 340 478 [4230] 377	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257 547 [4388] 294 537 [4754] 331 527 [4665] 368	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 670 [5931] 99 674 [5965] 134 670 [5930] 169 664 [5880] 205 656 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347	6 of Operation 6 of Operation 6 996 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324		10 19 38 76 113 151 188 226 263 301 338 376 413	Theoretical rpm
Max. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301 	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 50 [446] 338 41 [363] 376 31 [276] 413	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1544] 186 168 [1491] 224 163 [1439] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411	below and t 254 [2250] 12 280 [2474] 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 245 245 245 245 245 245 245 245	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289 347 [3067] 327 336 [2977] 365 326 [2888] 403 315 [2790] 441	the BOLD lin 411 [3636] 5 446 23 481 481 [4254] 59 486 484 [4285] 131 479 479 [4240] 167 473 447 [304] 455 [4111] 241 204 455 [412] 273 447 437 [3868] 348 4227 427 [3783] 345 417 423 555 310 345 417 [3693] 423 555	454 [4019] 4 483 [4279] 20 523 [4627] 523 [4627] 56 533 [4721] 126 529 [4683] 161 520 [4600] 194 513 [4537] 229 506 [4477] 266 493 [4363] 302 487 [4305] 340 478 [4230] 377 467 [4137] 414	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 150 572 [5064] 150 563 [4980] 222 557 [4929] 257 547 [4838] 294 537 [4754] 331 527 [4665] 368 518 [4581] 405	Settings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 [5965] 134 670 [5930] 169 664 [5800] 205 656 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5466] 383	6 of Operation 6 of Operation 6 996 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324 723 [6395] 360		10 19 38 76 113 151 188 226 263 301 338 376 413 451	Theoretical rpm
Max. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301 	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1543] 224 163 [1439] 261 159 [1409] 299 153 [1388] 144 [1277] 374 134 [1186] 411	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2486] 142 270 [2385] 220 263 [2324] 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 210 [1856] 2468	o the right of 335 [2961] 9 365 [3222] 27 388 [3430] 65 387 [3425] 102 384 [3394] 176 371 [3284] 213 363 [3216] 251 355 [3145] 289 347 [3067] 327 336 [2888] 403 315 [2790] 441 309 [2737] 461	the BOLD in 411 [3636] 5 446 23 481 486 [4299] 95 484 473 [4240] 167 473 479 [4240] 204 465 465 [4111] 241 454 453 310 337 [3868] 348 427 417 [3663] 413 [3656] 413 [3656]	454 [4019] 4 483 [4279] 20 523 [4627] 523 [4721] 90 533 [4721] 90 534 [4722] 126 529 [4683] 161 520 [4683] 161 520 [4683] 302 506 [4477] 226 504 [473] [4305] 302 487 [4305] 340 478 [4230] 377 467 [4137] 464 [4107] 464 4632 55 55	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257 [4655] 386 518 [4581] 405 513 [4543] 422	Satings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99 674 [5965] 134 670 [5931] 99 674 [5965] 134 670 [5930] 169 664 [5880] 205 656 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5436] 629 614 [5436] 620	6 of Operation 6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6642] 253 740 [6546] 288 730 [6463] 324 723 [6395] 360 718 [6353] 378		10 19 38 76 113 151 188 226 263 301 338 376 413 451 470	Theoretical rpm
Max. Max. Inter. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301 	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 180 [1593] 148 174 [1544] 186 168 [1491] 221 159 [1409] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 210 [1856] 468 181 [1598] 561	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 355 [3145] 289 347 [3067] 327 365 326 [2888] 403 315 [2790] 441 309 [2737] 461 281 [2486] 552	the BOLD in 411 [3636] 5 446 23 481 486 [4293] 481 [4254] 59 484 486 [4299] 131 479 473 [4190] 204 465 447 [3955] 310 437 437 [3868] 327 3783 345 417 413 [3656] 440 382 382 (3380)	454 [4019] 4 483 [4279] 20 523 [4627] 523 [4721] 90 533 [4721] 126 529 [4683] 161 520 [4600] 194 513 [4537] 229 506 [4477] 266 493 [4363] 302 487 [4305] 340 478 [4230] 377 467 [4137] 414 464 [4107] 432 433 [3831] 530	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 222 557 [4929] 257 547 [4838] 294 537 [4754] 368 518 [4581] 405 513 [4543] 482 [4267] 521	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5930] 99 674 [5965] 134 670 [5930] 686 [5609] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5466] 383 614 [5436] 401 580 [5136] 495	6 of Operation 6 of Operation 6 096 [6156] 25 732 [6478] 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324 733 [6395] 360 718 [6353] 378 689 [6100] 467		10 19 38 76 113 151 188 226 263 301 338 376 413 451 470 563	Theoretical rpm
Max. Max. Inter. Cont.	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30] Rotor Width	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 263 8 [70] 301 Torque - Nm [Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413 Ib-in], Speed	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 110 180 [1593] 148 174 [1544] 1224 163 [1439] 221 159 [1409] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411 	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 210 [1856] 468 181 [1558] 561	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 273 363 [3216] 251 363 [3216] 251 345 [3145] 289 347 [3067] 327 336 [2977] 365 326 [2888] 403 315 [2790] 441 281 [2486] 552 Over	the BOLD lin 411 [3636] 5 446 23 481 486 [4299] 95 486 44293 95 484 [4285] 131 479 479 [4240] 204 465 465 [4111] 241 454 452 [273] 447 [3955] 310 310 437 [3868] 417 [3693] 423 413 436 [3380] 382 [3380] 539 382 431 Efficiency	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90 93 [4722] 126 529 [4683] 529 [4683] 194 513 [4537] 229 506 [4477] 26 493 [4363] 302 487 [4305] 340 478 [4230] 377 377 467 [4107] 433 [3831] 530 (4) (107) 433	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 227 547 [4838] 294 537 [4754] 331 527 [4665] 368 518 [4581] 405 513 [4543] 422 482 [4267] 521 % 40	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99 674 [5965] 134 670 [5930] 664 [5880] 205 656 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5436] 383 614 [5436] 401 580 [5136] 495 - 69%	6 of Operation 6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324 723 [6353] 360 718 [6353] 378 689 [6100] 467 0 - 39%		10 19 38 76 113 151 188 226 263 301 338 376 413 451 470 563	Theoretical rpm
Max. Max. Inter. Cont. Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30] Rotor 39.4 [1.552]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 226 16 [139] 263 8 [70] 301	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413 III [980]	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 180 [1593] 148 174 [1544] 186 168 [1491] 261 159 [1409] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411 221 [1959]	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 210 [1856] 468 181 [1598] 561 332 [2939]	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 176 371 [3284] 213 363 [3216] 365 [3145] 289 347 [3067] 327 336 [2977] 365 326 [2888] 403 315 [2790] 441 309 [2737] 461 281 [2486] 552 Over 443 [3918]	the BOLD lin 411 [3636] 5 446 23 481 481 [4293] 484 [4293] 95 484 484 [4293] 95 131 479 [4240] 167 473 473 [4190] 204 465 447 [3955] 310 437 437 [3868] 327 [3783] 385 417 413 [3656] 440 382 382 [3380] 539 53	He. 454 [4019] 4 43 483 [4279] 20 523 523 [4627] 56 533 533 [4721] 90 534 529 [4683] 161 520 520 [4600] 194 513 520 [4633] 266 [4477] 266 493 493 [4363] 302 478 478 [4230] 377 414 464 [4107] 433 [3831] 530 (- (- 70 - 100'	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 82 [5149] 120 576 [5098] 150 577 [5064] 185 563 [4980] 222 557 [4929] 257 547 [4838] 294 537 [4754] 368 518 [4581] 405 513 [4543] 482 [4267] 521 % 40 664 [5878]	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 [5930] 69 674 [5965] 134 670 [5930] 664 [5880] 205 656 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5466] 383 614 [5436] 495 - 69% 775 [6857]	6 of Operation 6 of Operation 6 096 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324 733 [6395] 360 718 [6353] 378 689 [6100] 467 0 - 39% 886 [7837]		10 19 38 76 113 151 188 226 263 301 338 376 413 451 470 563	Theoretical rpm
Max. Max. Inter. Cont. Flow - Ipm [gpm]	200 cm ³ [12 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30] Rotor Width 39.4 [1.552] mm [in]	2.2 in ³]	28 [249] 8 33 [291] 18 39 [343] 37 40 [354] 75 38 [334] 112 34 [298] 150 29 [255] 188 22 [197] 263 8 [70] 301 Torque - Nm [55 [490] Theoretical To	Intermitten 72 [638] 7 81 [713] 17 85 [757] 36 87 [773] 74 89 [789] 111 85 [752] 149 80 [709] 187 74 [651] 225 67 [593] 262 60 [530] 300 50 [446] 338 41 [363] 376 31 [276] 413 Ib-in], Speed 111 [980] rque - Nm [Ib	t Ratings are 157 [1388] 5 170 [1508] 14 185 [1637] 34 187 [1654] 72 184 [1624] 180 [1593] 148 174 [1544] 1224 163 [1439] 221 159 [1409] 299 153 [1358] 336 144 [1277] 374 134 [1186] 411 221 [1959] -in]	below and t 254 [2250] 12 280 [2474] 31 289 [2554] 69 285 [2524] 106 281 [2488] 144 276 [2446] 182 270 [2385] 220 263 [2324] 257 255 [2260] 296 246 [2181] 334 237 [2100] 372 227 [2007] 410 216 [1908] 449 210 [1856] 468 181 [1598] 561 332 [2939]	o the right of 335 [2961] 9 365 [3232] 27 388 [3430] 65 387 [3425] 102 384 [3394] 138 378 [3345] 273 363 [3216] 251 363 [3216] 251 363 [3216] 251 345 [3145] 289 347 [3067] 327 336 [2977] 365 326 [2888] 403 315 [2790] 441 309 [2737] 461 281 [2486] 552 Over 443 [3918] Displace	the BOLD lin 411 [3636] 5 446 23 481 4241 59 486 [4299] 95 484 479 [4240] 167 473 479 [4240] 204 465 465 [4111] 241 454 452 [273] 447 [3955] 310 37 436 [302] 437 [3868] 417 [3693] 423 413 385 413 386 539 539 539 553 [4898] ment tested a 4898]	454 [4019] 4 483 [4279] 20 523 [4627] 56 533 [4721] 90 93 [4683] 529 [4683] 194 513 [4537] 229 506 [4477] 226 493 [4363] 302 487 [4305] 340 478 [4230] 377 377 467 [4107] 433 [3831] 530 / 70 - 100' 609 609 [5388] at 54°C	Intermittent F 508 [4498] 6 521 [4609] 17 564 [4995] 51 579 [5128] 84 582 [5149] 120 576 [5098] 150 572 [5064] 185 563 [4980] 227 547 [4838] 227 547 [4838] 237 [4754] 331 527 [4665] 368 518 [4581] 405 513 [4543] 422 482 [4267] 521 % 40 664 [5878]	Ratings - 10% 568 [5024] 3 627 [5548] 38 654 [5790] 67 670 [5931] 99 674 [5965] 134 670 [5930] 676 [5965] 134 670 [5930] 666 [5809] 238 648 [5731] 274 637 [5639] 311 628 [5555] 347 618 [5436] 383 614 [5436] 401 580 [5136] 495 - 69% 775 [6857] iscosity of 46	6 of Operation 6 of Operation 6 96 [6156] 25 732 [6478] 54 755 [6685] 85 768 [6793] 116 767 [6789] 150 764 [6765] 186 756 [6688] 219 747 [6612] 253 740 [6546] 288 730 [6463] 324 723 [6353] 360 718 [6353] 378 689 [6100] 467 0 - 39% 886 [7837] cst [213 SUS]		10 19 38 76 113 151 188 226 263 301 338 376 413 451 470 563	Theoretical rpm

DISPLACEMENT PERFORMANCE

17 [250]

160

161 cm3 [9.8 in3] / rev

Pressure - bar [psi]

white**drive**products

35 [500]

69 [1000]

104 [1500]

Intermittent Ratings are below and to the right of the BOLD line.

138 [2000]

Performance data is typical. Performance of production units varies slightly from one motor to another.

259 [3750]

Intermittent Ratings - 10% of Operation

Max. Inter.

276 [4000]

Max. Cont.

207 [3000]

242 [3500]

172 [2500]

DELIVERING THE POWER TO GET WORK DONE

g	2 [0.0]		7	7	6							
md	4 [1]		49 [435] 16	97 [856] 15	199 [1764] 14	293 [2592] 12	391 [3457] 10	483 [4272] 7	530 [4692] 5	576 [5094] 4		
- nol-	8 [2]		43 [378] 32	100 [889] 31	212 [1878] 30	316 [2798] 28	414 [3664] 25	507 [4491] 21	552 [4881] 19	596 [5271] 16		
Ľ	15 [4]		49 [433] 65	100 [884] 65	217 [1918] 63	333 [2943] 61	442 [3909] 57	542 [4801] 51	589 [5215] 48	642 [5685] 43	724 [6407] 33	806 [7135] 21
	23 [6]		45 [402] 98	97 [861] 98	214 [1897] 97	331 [2929] 93	446 [3950] 89	556 [4925] 81	609 [5393] 76	651 [5762] 68	747 [6610] 56	833 [7371] 43
	30 [8]		41 [360] 131	98 [871] 130	209 [1852] 130	327 [2896] 126	444 [3928] 121	557 [4933] 113	607 [5370] 102	662 [5863] 96	766 [6781] 82	858 [7595] 67
	38 [10]		34 [302] 164	94 [829] 163	204 [1804] 162	321 [2841] 159	439 [3881] 154	550 [4868] 139	608 [5380] 133	665 [5882] 126	775 [6857] 110	875 [7743] 92
	45 [12]		27 [235] 197	86 [763] 196	196 [1734] 195	313 [2772] 192	431 [3815] 186	545 [4819] 171	603 [5334] 164	660 [5837] 157	772 [6829] 140	882 [7803] 119
	53 [14]		19 [167] 229	78 [690] 229	188 [1660] 228	305 [2698] 225	422 [3734] 219	538 [4757] 204	595 [5269] 197	653 [5778] 189	766 [6781] 170	878 [7772] 146
	61 [16]		11 [100] 262	69 [612] 261	178 [1576] 262	295 [2614] 258	413 [3657] 252	528 [4677] 235	586 [5188] 227	644 [5697] 219	700 [6198] 210	815 [7214] 190
	68 [18]			60 [527] 294	168 [1487] 295	286 [2514] 292	402 [3559] 280	519 [4592] 268	577 [5106] 260	634 [5611] 251	748 [6617] 229	862 [7632] 204
Cont.	76 [20]			49 [430] 327	155 [1375] 328	272 [2408] 325	391 [3457] 314	506 [4482] 302	565 [5001] 294	623 [5514] 285	739 [6537] 262	850 [7525] 235
	83 [22]			40 [352] 360	149 [1319] 360	262 [2321] 357	379 [3357] 350	495 [4382] 338	553 [4894] 330	611 [5409] 320	724 [6409] 298	839 [7423] 270
	91 [24]			30 [268] 392	138 [1220] 392	251 [2217] 389	368 [3253] 382	482 [4268] 369	540 [4781] 361	598 [5295] 351	713 [6309] 328	829 [7333] 301
	95 [25]				131 [1161] 408	245 [2167] 405	362 [3202] 397	478 [4227] 384	537 [4755] 376	592 [5237] 365	708 [6263] 343	823 [7283] 316
nter.	114 [30]				92 [816] 492	208 [1837] 487	325 [2876] 480	442 [3908] 467	499 [4419] 458	557 [4928] 448	617 [5942] 423	790 [6991] 394
-	Rotor Width		Torque - Nm [lb-in], Speed	rpm		Over	rall Efficiency	- 70 - 100	% 40	- 69%	0 - 39%
	45.5 [1 791]		63 [554]	125 [1108]	250 [2215]	376 [3323]	501 [4431]	626 [5539]	688 [6092]	751 [6646]	876 [7754]	1001 [8862]
	mm [in]	J	Theoretical To	orque - Nm [lb	in]		Displace	ement tested a	it 54°C [129°F] with an oil v	iscosity of 460	St [213 SUS
										Max Cont		Max Inter
			Pressure - ba	r [psi]						max. com.		max. mitor.
	320		Pressure - ba	r [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]	224 [3250]
	320 322 cm ³ [19] 9.7 in ³]	Pressure - ba	r [psi] 35 [500]	69 [1000]	104 [1500]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	207 [3000]	224 [3250]
<u>ה</u>	320 322 cm ³ [19] 9.7 in ³]]	Pressure - ba 17 [250] / rev	r [psi] 35 [500] Intermitten	69 [1000] t Ratings are	104 [1500] below and to 398 [3524]	138 [2000] o the right of	155 [2250] the BOLD lir	172 [2500] ne.	190 [2750] Intermittent F	207 [3000] Ratings - 10%	224 [3250] of Operation
n [gpm]	320 322 cm ³ [19 2 [0.5]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291]	69 [1000] t Ratings are 272 [2406] 3 290 [2568]	104 [1500] below and to 398 [3524] 1 425 [3764]	138 [2000]	155 [2250] the BOLD lin	172 [2500] ne.	190 [2750] Intermittent F	207 [3000] Ratings - 10%	224 [3250] of Operatio
/ - lpm [gpm]	320 322 cm ³ [19 2 [0.5] 4 [1]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [F97]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328]	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751]	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083]	138 [2000] o the right of 558 [4937] 6 596 [5277]	155 [2250] the BOLD lin 623 [5514] 4	172 [2500] ne. 689 [6101] 3 723 [6396]	190 [2750] Intermittent F 746 [6599] 1 788 [6977]	207 [3000] Ratings - 10%	224 [3250]
Flow - Ipm [gpm]	320 322 cm ³ [15 2 [0.5] 4 [1] 8 [2]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [F665]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1309]	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 342 [2764]	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 424 [4107]	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 827 [5547]	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 609 [6173]	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747]	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 921 [7261]	207 [3000] Ratings - 10% 849 [7510] 9 980 [77265]	224 [3250] o of Operatio
Flow - Ipm [gpm]	320 322 cm ³ [19 2 [0.5] 4 [1] 8 [2] 15 [4]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1267]	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 230 [2824]	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 44 [4222]	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 627 [5547] 36	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 747 [6247]	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 701 [7004]	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 047 [8446]	224 [3250] o of Operatio 942 [8337 19
Flow - Ipm [gpm]	320 322 cm ³ [15] 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 70 70 [541]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 (1290)	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 67 67 67 67 63	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 (4041)	138 [2000] o the right of 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640]	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 745 [2020]	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 705 (2050)	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 904 [7247]	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 927 (9926)	224 [3250] of Operation 942 [8337 19 977 [8646] 32
Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 72 [641] 93 24 [565]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 93 147 [1299] 147	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 92	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 [4221] 87 402 [4442]	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 620 [55560]	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75	172 [2500] he. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 704 [6055]	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 950 [7662]	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [9265]	224 [3250] of Operatio 942 [8337 19 977 [8646 32 996 [8816 49
Flow - Ipm [gpm]	320 322 cm ³ [13 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 20 217 217 217 217 217 217 217 217	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 150 [1328] 22 147 [1299] 46 154 [1367] 69 137 [1217] 117 117 114 [1455]	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2663] 114 202 [2547]	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 [4221] 87 468 [4142] 110 450 [4040]	138 [2000] o the right of 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 640 [54,70]	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75 705 [6241] 94 94	172 [2500] he. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6935] 87 724 [0060]	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 950 [2523]	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 906 [9407]	224 [3250] of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68
Flow - Ipm [gpm]	320 322 cm ³ [15 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12]] 9.7 in ³)	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 93 137 [1217] 117 131 [1155] 139	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4187] 41 484 [4283] 64 477 [4221] 87 468 [4142] 110 458 [4049] 34 402 [4049] 134	138 [2000] o the right of 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 200 20 20 20	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75 705 [6241] 94 695 [6151] 116 2020 (905)	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [704] 48 786 [6959] 65 784 [6935] 87 774 [6850] 109	190 [2750] Intermittent F 746 [6599] 1 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 205 205 205 205 205 205 205 205	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96	224 [3250] o of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89
Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14]	9.7 in ³]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 22 64 [565] 46 77 [677] 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 93 137 [1217] 117 131 [1155] 139 122 [1076] 164	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 281 [2483] 0 	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 4777 [4221] 87 468 [4142] 110 458 [4049] 134 446 [3943] 457	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6955] 87 774 [6850] 109 764 [6764] 132	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 788 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 934 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] o of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89 990 [8761] 109
Flow - Ipm [gpm]	320 322 cm ³ [15] 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16]	9.7 in ³)	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164 187 187	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 93 137 [1217] 131 [1155] 139 122 [1076] 164 112 [964] 186	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2159] 185	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 [4221] 87 468 [4142] 110 458 [4049] 134 446 [3943] 157 431 [3818] 181	138 [2000] o the right of 596 [5277] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 163	172 [2500] he. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6935] 87 774 [6850] 109 764 [6764] 132 753 [660] 155	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 1 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 937 [8236] 74 926 [8197] 96 915 [8099] 116	224 [3250] o of Operation 942 [8337 19 977 [8646 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89 990 [8761] 109
Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18]	9.7 in ³)	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 13 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 137 [1217] 117 131 [1155] 139 122 [1076] 164 112 [997] 207	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2359] 185 265 [2344] 206	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4187] 41 484 [4283] 64 477 [4221] 87 468 [4142] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204	138 [2000] o the right of 596 [5277] 596 [5277] 596 [5277] 596 [5277] 596 [5277] 57 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 163 673 [5953] 185	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6935] 87 774 [6850] 109 764 [6764] 122 753 [6649] 178	190 [2750] Intermittent F 746 [6599] 1 866 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] o of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89 990 [8761] 109
Cont. Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20]	9.7 in ³)	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 167 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209 3 [25] 234	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 93 137 [1217] 117 131 [1155] 139 122 [1076] 164 113 [997] 207 97 [863] 233	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2761] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 185 265 [2344] 206 248 [2198] 322	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 41 484 [4283] 64 477 [4221] 87 468 [4142] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 227	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192 578 [5114] 216	155 [2250] the BOLD lin 623 [5514] 4 659 [5634] 14 698 [6173] 33 717 [6329] 715 [6329] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 139 673 [5953] 185 658 [5821] 210	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 784 [6959] 784 [6959] 784 [6959] 764 [6764] 132 753 [6660] 178 736 [6515] 202	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] of Operatio 942 [8337 19 977 [8646 32 996 [8816] 49 1005 [8895 68 1001 [8861 89 990 [8761] 109
Cont. Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22]] 9.7 in ³] - - - - - - - -	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209 3 [25] 234	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 93 137 [1217] 139 122 [1076] 164 112 [997] 207 97 [863] 233 84 [747] 257	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2359] 265 [2344] 206 248 [2198] 236 [2091] 255	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 [4221] 87 468 [4142] 110 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 227 400 [3540] 249	138 [2000] o the right of 596 [5277] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192 578 [5114] 216 562 [4973] 240	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6327] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 185 655 [5621] 210 641 [5676] 234	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 784 [6959] 65 784 [6850] 109 764 [6764] 122 753 [6660] 155 751 [6649] 178 736 [6515] 202 720 [6368] 227	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197 781 [6913] 222	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 74 926 [8197] 96 915 [8099] 116	224 [3250] of Operation 942 [8337 19 977 [8646 32 996 [8816 49 1005 [8895 68 1001 [8861 89 990 [8761 109
Cont. Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24]]] - - - - - - - - - - - - - - - - - -	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 17 17 164 18 [161] 187 18 [160] 209 3 [25] 234	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 147 [1299] 137 [1217] 117 131 [1155] 139 122 [1076] 164 112 [994] 136 113 [997] 207 97 [863] 233 84 [747] 257 75 [667] 280	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 185 265 [2344] 206 248 [2188] 222 236 [2091] 255 215 [1900] 279	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 474 [4283] 64 477 [4221] 87 468 [4142] 134 446 [3943] 137 431 [3818] 181 430 [3805] 204 415 [3673] 27 400 [3540] 273 380 [3365] 273	138 [2000] o the right of 596 [5277] 596 [5277] 596 [5277] 596 [5277] 50 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192 578 [5114] 216 562 [4973] 240 543 [4804] 264	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 163 673 [5953] 185 658 [5821] 210 641 [5676] 234 623 [5510] 258	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6935] 87 774 [6850] 109 764 [6764] 132 753 [6649] 178 751 [6649] 178 736 [6515] 202 720 [6368] 227 701 [6202] 251	190 [2750] Intermittent F 746 [6599] 1 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197 781 [6913] 222 763 [6756] 246	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] o of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89 990 [8761] 109
Cont. Flow - Ipm [gpm]	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25]	9.7 in ³)	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 167 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209 3 [25] 234	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 93 137 [1217] 117 131 [1155] 139 122 [1076] 164 113 [997] 207 97 [863] 233 84 [747] 257 75 [667] 280 70 [616] 292	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2359] 185 265 [2344] 206 248 [2198] 236 [2091] 255 215 [1900] 279 207 [1828] 290	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 474 [4197] 484 [4283] 64 477 [4221] 87 468 [4142] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 227 400 [3540] 249 380 [3365] 273 370 [3272] 285	138 [2000] o the right of 558 [4937] 6 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 593 [5244] 192 578 [5114] 216 562 [4973] 240 543 [4804] 264 533 [4716] 276	155 [2250] the BOLD lin 623 [5514] 4 659 [5634] 14 698 [6173] 33 717 [6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 75 (6329] 76 (637) (5966] 139 673 [5953] 185 658 [5821] 210 641 [5676] 234 623 [5510] 256 613 [5542] 270	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6959] 784 [6959] 784 [6959] 774 [6850] 109 764 [6764] 132 753 [6649] 178 736 [6515] 202 720 [6368] 227 701 [6202] 251 698 [6175] 261	190 [2750] Intermittent F 746 [6599] 1 788 [677] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197 781 [6913] 227 763 [6756] 246 758 [6711] 257	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] of Operation 942 [8337 19 977 [8646] 32 996 [8816] 49 1005 [8895 68 1001 [8861] 89 990 [8761] 109
nter Cont. Cont.	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30]] 9.7 in ³] - - - - - - - - - - - - - - - - - - -	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209 3 [25] 234	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 93 137 [1217] 131 [1155] 139 122 [1076] 164 112 [994] 186 113 [997] 207 97 [863] 233 84 [747] 257 75 [667] 280 70 [616] 292	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 265 [2344] 266 248 [2198] 236 236 [2091] 255 215 [1900] 279 207 [1828] 290 153 [1353] 350	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 41 484 [4283] 64 477 [4221] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 227 400 [3540] 249 380 [3365] 273 370 [3272] 285 315 [2789] 344	138 [2000] o the right of 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192 578 [5114] 216 562 [4973] 240 543 [4804] 264 533 [4716] 276 478 [4230] 335	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6327] 75 705 [6241] 94 695 [6151] 116 687 [6078] 185 658 [5821] 210 641 [5676] 234 623 [5510] 259 [4943] 329	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 173 [6650] 109 764 [6764] 132 753 [6660] 155 751 [6649] 178 736 [6515] 202 720 [6368] 227 701 [6202] 251 698 [6175] 261 639 [5653] 322	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 11 821 [7261] 26 853 [7548] 42 853 [7548] 42 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197 781 [6913] 222 763 [6756] 246 758 [6711] 257 704 [6233] 318	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 96 915 [8099] 116	224 [3250] of Operatio 942 [8337 19 977 [8646] 32 996 [8816 49 1005 [8895 68 1001 [8861] 89 990 [8761] 109
Inter. Cont. Cont.	320 322 cm ³ [15] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30] Rotor] 9.7 in ³) - - - - - - - - - - - - - - - - - - -	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 53 [473] 140 30 [262] 18 [160] 209 3 [25] 234 Torque - Nm [r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 10 150 [1328] 22 147 [1299] 93 137 [1217] 117 131 [1155] 139 122 [1076] 164 112 [994] 186 113 [997] 207 97 [863] 233 84 [747] 257 75 [667] 280 70 [616] 292 Ib-in], Speed	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2359] 185 265 [2344] 206 248 [2198] 232 236 [2091] 255 215 [1900] 279 207 [1828] 90 153 [1353] 350 rpm	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 18 474 [4197] 484 [4283] 64 477 [4221] 87 468 [4142] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 274 430 [3565] 273 370 [3272] 285 315 [2789] 344	138 [2000] o the right of 596 [5277] 6 6 6 6 6 6 6 7 6 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 7 6 7 6 7 6 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 8 7 7 6 7 7 1 8 7 1 1 8 7 7 1 8 7 1 1 8 7 7 1 1 8 7 7 1 1 8 7 7 1 1 8 7 7 1 1 8 7 7 7 1 8 7 7 1 1 8 7 7 7 8 5 7 1 1 8 7 7 7 7 7 8 5 7 1 1 1 2 7 6 7 7 7 7 7 8 5 7 1 1 2 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 52 715 [6329] 75 623 [5421] 94 695 [6151] 116 687 [6078] 139 673 [5953] 858 [5821] 210 641 [5676] 234 623 [5510] 258 613 [5423] 270 559 [4943] 329 rall Efficiency	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6959] 65 784 [6959] 774 [6850] 109 764 [6764] 132 751 [6649] 751 [6649] 751 [6649] 277 701 [6202] 270 [6368] 227 701 [6202] 251 639 [6175] 261 639 [6553] 322 70 - 70 - 100	190 [2750] Intermittent F 746 [6599] 188 [6977] 11 821 [7261] 26 853 [7548] 42 861 [7617] 59 859 [7603] 80 850 [7523] 103 840 [7434] 124 824 [7290] 149 811 [7178] 174 797 [7052] 197 781 [6913] 222 763 [6756] 246 (58 [6711] 257 704 [6233] 318 %40	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 934 [8265] 74 926 [8197] 96 915 [8099] 116 - - - - - - - - - - - - -	224 [3250] o of Operatio 942 [8337 19 977 [8646 32 996 [8816 49 1005 [8896] 1001 [8861 89 990 [8761 109 0 - 39%
Inter. Cont. Cont.	320 322 cm ³ [13] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 95 [25] 114 [30] Rotor Width 63.5]]]]	Pressure - ba 17 [250] / rev 65 [571] 5 67 [595] 11 67 [597] 22 64 [565] 46 77 [677] 70 72 [641] 93 64 [566] 117 73 [473] 140 30 [262] 164 18 [161] 187 18 [160] 209 3 [25] 234 Torque - Nm [89 [788]	r [psi] 35 [500] Intermitten 135 [1196] 4 146 [1291] 150 [1328] 22 147 [1299] 46 154 [1367] 69 147 [1299] 137 [1217] 137 [1217] 137 [1217] 139 122 [1076] 164 112 [994] 128 [1576] 178 [1576]	69 [1000] t Ratings are 272 [2406] 3 290 [2568] 9 311 [2751] 20 312 [2761] 44 320 [2834] 67 313 [2766] 91 303 [2683] 114 292 [2587] 138 281 [2483] 161 267 [2359] 185 265 [2344] 206 248 [2198] 232 236 [2091] 279 207 [1828] 290 153 [1353] 356 [3153]	104 [1500] below and to 398 [3524] 1 425 [3764] 7 461 [4083] 8 474 [4197] 484 [4283] 64 477 [4221] 87 468 [4142] 10 458 [4049] 134 446 [3943] 157 431 [3818] 181 430 [3805] 204 415 [3673] 204 415 [3673] 204 415 [3673] 273 370 [3272] 285 315 [2789] 344 534 [4729]	138 [2000] o the right of 596 [5277] 16 627 [5547] 36 642 [5679] 57 637 [5640] 80 629 [5568] 103 619 [5479] 125 606 [5367] 146 594 [5253] 169 593 [5244] 192 578 [5114] 216 562 [4973] 240 543 [4804] 264 533 [4716] 276 478 [4230] 335 Over 713 [6306]	155 [2250] the BOLD lin 623 [5514] 4 659 [5834] 14 698 [6173] 33 717 [6347] 75 705 [6241] 94 695 [6151] 116 687 [6078] 139 674 [5966] 163 673 [5953] 185 658 [5821] 210 641 [5676] 234 623 [5510] 259 [4943] 329 all Efficiency 802 [7094]	172 [2500] ne. 689 [6101] 3 723 [6396] 12 762 [6747] 30 791 [7004] 48 786 [6959] 65 784 [6959] 774 [6850] 109 764 [6764] 132 753 [6649] 178 736 [6515] 202 720 [6368] 227 701 [6202] 251 6398 [5653] 322 7 - 70 - 100 ⁰ 891 [7882]	190 [2750] Intermittent F 746 [6599] 1 788 [6977] 81 787 861 [7617] 59 850 [7523] 80 850 [7523] 840 [7434] 824 [7290] 149 811 [7178] 177 781 [6913] 222 763 [6756] 246 758 [6711] 257 704 [6233] 318 % 40	207 [3000] Ratings - 10% 849 [7510] 9 880 [7785] 20 917 [8116] 37 937 [8236] 53 934 [8265] 74 926 [8197] 915 [8099] 116 1069 [9459] 1069 [9459]	224 [3250] o of Operation 942 [8337] 19 977 [8646] 32 996 [8816] 49 1005 [8895] 68 1001 [8861] 89 990 [8761] 109 0 - 39% [1158 [10247]

DISPLACEMENT PERFORMANCE

Performance data is typical. Performance of production units varies slightly from one motor to another.

242 [3500]

Intermittent Ratings - 10% of Operation

Max. Inter.

276 [4000]

Γ 9

Theoretical rpm 17 34

Max. Cont.

207 [3000]

> 415 498

> > 6 [heoretical 12 24 rpm

E 2 [0.5]

Pressure - bar [psi]

35 [500]

69 [1000]

40 [353] 90 [798] 189 [1673]

104 [1500]

Intermittent Ratings are below and to the right of the BOLD line.

138 [2000]

172 [2500] 190 [2750]

Τ

17 [250]

WS (All Series) For Medium Duty Applications

230

229 cm3 [14.0 in3] / rev

white**drive**products





WS (All Series) For Medium Duty Applications

Theoretical rpm

DISPLACEMENT PERFORMANCE

Performance data is typical. Performance of production units varies slightly from one motor to another.

			Pressure - ba	r [psi]						Max. Cont.		Max. Inter.	
	400		17 [250]	35 [500]	69 [1000]	86 [1250]	104 [1500]	121 [1750]	138 [2000]	155 [2250]	172 [2500]	190 [2750]	
	409 cm ³ [2:	5.0 in ³]	/ rev	Intermitten	t Ratings are	below and t	o the right of	the BOLD lir	ne.	Intermittent F	Ratings - 10%	6 of Operation	
[mdf	2 [0.5]		81 [717]	173 [1534]	356 [3148]								
pm [g	4 [1]		85 [752]	181 [1605]	369 [3263]	460 [4074]	550 [4865]	638 [5648]	724 [6404]	816 [7222]			1
- MO	8 [2]		86 [762] 18	187 [1654] 18	387 [3422] 16	483 [4274]	575 [5090] 13	662 [5861] 11	747 [6613]	826 [7310] 7			1
ш	15 [4]		82 [724]	185 [1635]	391 [3460]	493 [4361]	592 5240]	688 [6086]	776 [6871]	866 [7667]	942 [8337]		3
	23 [6]		75 [663]	178 [1573] 56	383 [3393]	486 [4301]	588 [5201]	686 [6074]	783 [6926]	876 [7750]	963 [8524]	1056 [9345]	5
	30 [8]		66 [585] 76	168 [1490] 75	374 [3306] 73	476 [4216] 72	578 [5119]	679 [6007]	776 [6868]	872 [7716] 50	966 [8545] 43	1055 [9341] 36	7
	38 [10]			154 [1365] 95	361 [3197] 93	464 [4110] 91	567 [5015]	664 [5880] 82	764 [6764] 76	862 [7626]	956 [8463] 61	1050 [9289] 52	9
	45 [12]			140 [1237] 114	346 [3066]	450 [3978] 110	551 [4880]	649 [5744] 101	750 [6638]	848 [7503] 88	945 [8361] 80	1039 [9195] 71	1'
	53 [14]			125 [1104] 133	330 [2924] 131	434 [3838]	536 [4745] 126	634 [5609] 119	735 [6504]	833 [7369] 102	929 [8217] 97	1024 [9058] 88	1:
	61 [16]			106 [934] 151	311 [2755] 150	415 [3672] 148	518 [4580] 145	617 [5456] 138	718 [6357] 131	817 [7228] 123	913 [8079] 114	1007 [8913] 104	1
	68 [18]			131	291 [2578]	395 [3493]	498 [4405]	597 [5279]	699 [6185] 151	798 [7065]	896 [7931]	991 [8774]	17
Cont.	76 [20]				269 [2379]	371 [3286]	475 [4205]	575 [5084]	678 [5997] 171	777 [6879]	876 [7754]	972 [8606]	19
- 0	83 [22]				246 [2174]	348 [3076]	451 [3987]	555 [4911]	654 [5789]	754 [6671]	852 [7543]	951 [8413]	20
	91 [24]				226 [2000]	322 [2850]	424 [3756]	528 [4668] 217	629 [5571] 211	728 [6446]	828 [7332] 195	926 [8197]	22
	99 [26]				197 [1739] 246	294 [2600] 244	397 [3515] 241	500 [4421] 236	602 [5323] 231	702 [6214]	801 [7093] 215	900 [7963] 205	24
nter.	114 [30]				131 [1162] 284	237 [2100]	338 [2991] 279	441 [3901]	542 [4798] 269	643 [5687] 263	743 [6574] 254	843 [7458] 245	28
2 - 1	Rotor Width		Torque - Nm [lb-in], Speed	rpm	101	Over	rall Efficiency	y - 70 - 100	% 40	- 69%	0 - 39%	
	63.5		110 [969]	219 [1939]	438 [3877]	548 [4846]	657 [5816]	767 [6785]	876 [7754]	986 [8723]	1095 [9693]	1205 [10662]	
I	mm [in]		Theoretical To	orque - Nm [lb	in1		Displace	ment tested a	at 54°C [129°F] 1 with an oil y	iscosity of 46	cSt [213 SUS]	
							Displace			Jwith an on v	10000 kg 01 40	001[210 000]	
			Pressure - ba	r [psi]			Displace	inent tested e	Max. Cont.	J with an on v	Max. Inter.	001 [210 000]	
	500		Pressure - ba 17 [250]	r [psi] 35 [500]	52 [750]	69 [1000]	86 [1250]	104 [1500]	Max. Cont.	138 [2000]	Max. Inter.]	
	500 508 cm ³ [3	1.0 in ³]	Pressure - ba 17 [250] ^{/ rev} Interr	r [psi] 35 [500] nittent Rating	52 [750] gs are below	69 [1000] and to the ri	86 [1250] ght of the BC	104 [1500] DLD line.	Max. Cont. 121 [1750]	138 [2000] Ratings - 10%	Max. Inter. 155 [2250]]	
[mdf	500 508 cm ³ [3 ⁻ 2 [0.5]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832]	r [psi] 35 [500] nittent Rating	52 [750] gs are below	69 [1000] and to the rig	86 [1250] ght of the BC	104 [1500] DLD line.	Max. Cont. 121 [1750]	138 [2000] Ratings - 10%	Max. Inter. 155 [2250]]	The
pm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743]	52 [750] gs are below 323 [2859] 3 314 [2781] 3	69 [1000] and to the ri 435 [3853] 3 430 [3802]	86 [1250] ght of the BC	104 [1500] DLD line. 652 [5766]	Max. Cont. 121 [1750] Intermittent I	138 [2000] Ratings - 10%	Max. Inter. 155 [2250]		Theoretic
low - Ipm [gpm]	500 508 cm ³ [3: 2 [0.5] 4 [1] 8 [2]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15	52 [750] gs are below 323 [2859] 314 [2781] 7 328 [2905] 14	69 [1000] and to the ri 435 [3853] 430 [3802] 6 447 [3959] 14	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900]	138 [2000] Ratings - 10%	Max. Inter. 155 [2250]	4 8 16	Theoretical rpm
Flow - lpm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29	86 [1250] ght of the BC 542 [4797] 6 555 [5001] 13 584 [5170] 28	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25	Max. Cont. 121 [1750] Intermittent 777 [6876] 4 780 [6900] 9 815 [7212] 21	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16	Max. Inter. 155 [2250] o of Operation 1012 [8956]	4 8 16 31	Theoretical rpm
Flow - Ipm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 30 324 [2869] 45	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 705 [6227] 41	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22	4 8 16 31 46	Theoretical rpm
Flow - Ipm [gpm]	500 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 6	86 [1250] ght of the BC 542 [4797] 6 555 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58	104 [1500] 104 [1500] 10LD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 814 [7296] 814 [7296] 50	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 43	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34	4 8 16 31 46 62	Theoretical rpm
Flow - Ipm [gpm]	500 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 68 [600] 77	r [psi] 35 [500] mittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 7 7	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 443 [3918] 60 429 [3800] 75	86 [1250] ght of the BC 542 [4797] 545 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36 814 [7205] 50 805 [7123] 66	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 28 930 [8231] 43 924 [8175] 59	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 50	4 8 16 31 46 62 77	Theoretical rpm
Flow - Ipm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12]	1.0 in³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 443 [3918] 60 429 [3800] 75 410 [3624] 91	86 [1250] ght of the BC 542 [4797] 6 555 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86	Max. Cont. 121 [1750] Intermittent I 7777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 36 814 [7205] 50 805 [7123] 66 770 [6811] 82	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 924 [8175] 59 891 [7885] 75	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 50 1008 [8916] 68	4 8 16 31 46 62 777 92	Theoretical rpm
Flow - Ipm [gpm]	500 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14]	1.0 in³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 107	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2905] 14 330 [2652] 76 262 [2318] 92 286 [2533] 106	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5918] 101	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36 814 [7205] 36 805 [7123] 66 770 [6811] 82 794 [7027] 96	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 28 930 [8231] 43 924 [8175] 59 891 [7885] 75 914 [8092] 89	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1034 [941] 1037 [912] 1037 [912] 1038 [8916] 68 1031 [9122] 80	4 8 16 31 46 62 77 92 107	Theoretical rpm
Flow - Ipm [gpm]	500 508 cm ³ [3] 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 38 [783] 46 79 [696] 62 68 [600] 77	r [psi] 35 [500] mittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 137	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 127	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5748] 101 649 [5740] 116	Max. Cont. 121 [1750] Intermittent I 7777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 36 814 [7205] 50 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 111	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 930 [8234] 13 930 [8231] 939 [8231] 939 [7936] 914 [8092] 897 [7936] 104	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 1008 [8916] 68 1031 [9122] 80 1013 [8968] 95	4 8 16 31 46 62 77 92 107 123	Theoretical rpm
Flow - lpm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18]	1.0 in ⁹]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 197 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 138	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 6 12 76 265 [2347] 106 265 [2347] 122 243 [2147] 137	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 6 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136	86 [1250] ght of the BC 542 [4797] 6 555 [5001] 13 580 [5133] 43 570 [5087] 580 [5133] 43 577 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135	104 [1500] LD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5918] 101 649 [5740] 116 626 [5536] 132	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 111 752 [6659] 127	138 [2000] 138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 924 [8175] 59 914 [8092] 897 [7936] 104 876 [7753] 120	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1033 [9141] 22 1043 [9120] 50 1037 [9175] 50 1036 [8916] 68 1031 [9122] 80 1013 [8968] 95 995 [8806] 911	4 8 16 31 46 62 77 92 107 123 138	Theoretical rpm
Cont. Flow - Ipm [gpm]	500 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20]	1.0 in ⁹]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77	r [psi] 35 [500] mittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 123 114 [1004] 138 96 [849] 152	52 [750] gs are below 323 [2859] 3 314 [2781] 7 28 [2905] 14 322 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 137 217 [1919] 152	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 (4810] 104 523 [4630] 120 500 [4424] 135 473 [4130] 154	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5918] 101 649 [5740] 116 626 [5536] 132 600 [5311] 447	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36 814 [700] 805 [7123] 66 770 [6811] 82 779 [6659] 111 752 [6659] 127 728 [6446] 143	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8231] 28 930 [8231] 29 931 [7885] 75 914 [8092] 89 897 [7753] 104 876 [7753] 120 852 [7537] 136	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [912] 34 1037 [9175] 50 1008 [8916] 68 1031 [9122] 80 1013 [8968] 95 995 [8806] 111 972 [8606] 107	4 8 16 31 46 62 77 92 107 123 138 153	Theoretical rpm
max. Cont.	500 cm ³ (3) 2 (0.5) 4 (1) 8 (2) 15 (4) 23 (6) 30 (8) 38 (10) 45 (12) 53 (14) 61 (16) 68 (18) 76 (20) 83 (22)	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77 	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 123 114 [1004] 138 96 [849] 159 169	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 137 217 [1919] 153 154 [1360] 169	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152 276 [2439] 167	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135 473 [4190] 151 406 [3595] 406 [3595] 506 [3595] 507 [359] 507 [350] 507 [350]	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5740] 101 649 [5740] 116 626 [5536] 132 600 [5311] 147 534 [4724] 164	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 36 814 [7205] 50 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 111 752 [6659] 127 728 [6446] 143 660 [5839] 161	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 930 [8234] 930 [8231] 43 924 [8175] 59 891 [7885] 75 914 [8092] 89 897 [7936] 104 876 [7753] 120 852 [7537] 136 784 [6938] 155	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 50 1008 [8916] 68 1031 [9122] 80 1031 [8968] 95 995 [8806] 111 972 [8606] 127 907 [8028] 149	4 8 16 31 46 62 77 92 107 123 138 153 168	Theoretical rpm
max. Cont.	500 508 cm ³ (3) 2 (0.5) 4 (1) 8 (2) 15 (4) 23 (6) 30 (8) 38 (10) 45 (12) 53 (14) 61 (16) 68 (18) 76 (20) 83 (22) 91 (24)	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 68 [600] 77 	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 138 [1219] 107 138 [1219] 123 114 [1004] 138 96 [849] 153 78 [688] 168	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2905] 14 332 [2905] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 137 217 [1919] 153 154 [1360] 168 160 [1416] 184	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152 276 [2439] 167 268 [2371] 184	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 104 523 [4630] 104 523 [4190] 151 406 [3595] 166 397 [3512] 182	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5918] 101 649 [5740] 116 626 [5536] 132 600 [5311] 147 534 [4724] 164 524 [4633] 170	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36 814 [7205] 36 814 [7205] 36 805 [7123] 66 770 [6811] 111 752 [6659] 127 728 [6446] 143 660 [5755] 175	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 6 930 [8234] 28 930 [8234] 924 [8175] 59 891 [7885] 917 [7885] 914 [8092] 897 [7936] 104 876 [7753] 120 852 [7537] 136 764 [6938] 170	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1033 [9141] 22 1034 [941] 1037 [912] 1008 [8916] 68 1031 [9122] 800 1013 [8968] 95 995 [8806] 111 972 [8606] 127 907 [8028] 148 898 [7950] 162	4 8 16 31 46 62 77 92 107 123 138 153 168 184	Theoretical rpm
max. Cont.	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 99 [26]	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77 	r [psi] 35 [500] mittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 123 114 [1004] 153 78 [688] 168	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 153 154 [1360] 168 160 [1416] 184 129 [1138] 106	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152 276 [2439] 167 268 [2371] 184 231 [2048] 109	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 584 577 [4529] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135 473 [4190] 151 406 [3595] 166 397 [3512] 321 [2844] 107	104 [1500] DLD line. 652 [5766] 5677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5918] 101 649 [5740] 116 626 [5536] 132 600 [5311] 147 534 [4724] 164 524 [4633] 196	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 36 814 [7205] 36 814 [7205] 50 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 175 [6659] 127 728 [6446] 143 660 [5839] 161 650 [5755] 175 576 [5097] 102	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 28 930 [8234] 930 [8234] 130 [8234] 930 [8234] 130 [8234] 930 [8234] 130 [8234] 131 [8092] 89 897 [7753] 104 876 [7753] 104 875 [7753] 136 784 [6983] 155 776 [6863] 170 703 [6248] 199	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 1041 [9212] 80 1013 [8968] 95 995 [8806] 111 972 [8606] 127 907 [8028] 148 898 [7950] 162 827 [7320] 104	4 8 16 31 46 62 77 92 107 123 138 153 168 184 199	Theoretical rpm
itax. max. titer. Cont. Flow - lpm [gpm]	500 cm ³ (3) 2 (0.5) 4 (1) 8 (2) 15 (4) 23 (6) 30 (8) 38 (10) 45 (12) 53 (14) 61 (16) 68 (18) 76 (20) 83 (22) 91 (24) 99 (26) 114 (30)	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77 	r [psi] 35 [500] nittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 157 [1389] 107 138 [1219] 123 114 [1004] 138 96 [849] 153 78 [688] 168	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 137 217 [1919] 153 154 [1360] 168 160 [1416] 184 129 [1138] 199	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152 276 [2439] 167 268 [2371] 184 231 [2048] 198 186 [1647] 298	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135 473 [4190] 151 406 [3595] 166 397 [3512] 182 321 [2844] 197 292 [2581] 292	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 699 [5740] 116 626 [5536] 132 600 [5311] 147 534 [4724] 164 524 [4633] 179 451 [3988] 196 383 [3387] 27 27 27 27 27 27 27 27 27 27	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 22 824 [7296] 36 814 [7205] 50 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 111 752 [6659] 127 728 [6446] 143 660 [5839] 161 650 [5755] 175 576 [5097] 193 508 [4494] 224	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8231] 28 930 [8231] 43 924 [8175] 59 891 [7885] 74 [8092] 89 897 [7936] 104 876 [7753] 120 852 [7537] 136 784 [6938] 776 [6663] 170 703 [6218] 188 636 [5631] 210	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 50 1008 [8916] 68 1031 [9122] 80 1013 [8968] 95 995 [8806] 111 972 [8606] 111 972 [8606] 127 907 [8028] 148 898 [7950] 162 827 [7320] 181 761 [6738] 213 213	4 8 16 31 46 62 77 92 107 123 138 153 168 184 199 229	Theoretical rpm
max. max. Inter: Cont. Flow - Ipm [gpm]	500 508 cm ³ [3 2 [0.5] 4 [1] 8 [2] 15 [4] 23 [6] 30 [8] 38 [10] 45 [12] 53 [14] 61 [16] 68 [18] 76 [20] 83 [22] 91 [24] 99 [26] 114 [30] Rotor	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77 	r [psi] 35 [500] mittent Rating 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 30 196 [1737] 46 172 [1523] 177 [1568] 92 157 [1389] 107 138 [1219] 138 114 [1004] 138 96 [849] 153 78 [688] 168 168	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 30 324 [2869] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 137 217 [1919] 153 154 [1360] 168 160 [1416] 184 129 [1138] 199 rpm	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3466] 121 370 [3277] 136 344 [3047] 137 2376 [2439] 167 268 [2371] 184 231 [2048] 188 186 [1647] 229 Over	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 584 577 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135 473 [4190] 151 406 [3595] 166 397 [3512] 182 321 [2844] 197 292 [2581] 228 call Efficiency	104 [1500] DLD line. 652 [5766] 5677 [5990] 11 703 [6225] 25 705 [6237] 41 696 [6052] 71 644 [5696] 86 669 [5918] 101 649 [5740] 116 626 [5536] 132 600 [5311] 147 534 [4724] 164 524 [4633] 179 383 [3387] 227 7 - 70 - 100 ¹	Max. Cont. 121 [1750] Intermittent 777 [6876] 4 780 [6900] 9 815 [7212] 21 824 [7296] 36 814 [7205] 805 [7123] 66 770 [6811] 82 794 [7027] 96 775 [6861] 111 752 [6659] 127 728 [6446] 143 660 [5839] 161 650 [5755] 175 576 [5097] 193 508 [4494] 224 %	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 16 930 [8234] 28 930 [8234] 28 930 [8234] 28 931 [7885] 75 914 [8092] 89 897 [7736] 104 876 [7753] 120 852 [7537] 136 776 [6863] 170 703 [6218] 188 636 [5631] 219 - 69%	Max. Inter. 155 [2250] a of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 1041 [9210] 34 1037 [9175] 1041 [922] 80 1013 [8968] 95 995 [8806] 111 972 [8606] 127 907 [8028] 148 898 [7950] 162 827 [7320] 181 761 [6738] 213 0 - 39%	4 8 16 31 46 62 77 92 107 123 138 153 168 184 199 229	Theoretical rpm
htter. Cont. Flow - Ipm [gpm]	500 cm ³ (3) 2 (0.5) 4 (1) 8 (2) 15 (4) 23 (6) 30 (8) 38 (10) 45 (12) 53 (14) 61 (16) 68 (18) 76 (20) 83 (22) 91 (24) 99 (26) 114 (30) Rotor 78.95	1.0 in ³]	Pressure - ba 17 [250] / rev Interr 94 [832] 3 98 [868] 7 100 [882] 15 95 [843] 31 89 [783] 46 79 [696] 62 68 [600] 77 	r [psi] 35 [500] nittent Ratin; 210 [1861] 3 197 [1743] 7 205 [1812] 15 204 [1803] 196 [1737] 46 185 [1639] 61 172 [1523] 77 177 [1568] 92 138 [1219] 123 114 [1004] 138 96 [849] 153 78 [688] 168 168 168	52 [750] gs are below 323 [2859] 3 314 [2781] 7 328 [2905] 14 332 [2938] 324 [2838] 324 [2838] 324 [2838] 45 314 [2778] 61 300 [2652] 76 262 [2318] 92 286 [2533] 106 265 [2347] 122 243 [2147] 127 [1919] 153 154 [1360] 168 160 [1416] 184 129 [1138] 199 7pm 409 [3616]	69 [1000] and to the ri 435 [3853] 3 430 [3802] 6 447 [3959] 14 460 [4070] 29 453 [4009] 44 443 [3918] 60 429 [3800] 75 410 [3624] 91 415 [3673] 105 394 [3486] 121 370 [3277] 136 344 [3047] 152 276 [2439] 167 268 [2371] 184 231 [2048] 198 186 [1647] 229 Oven 545 [4821]	86 [1250] ght of the BC 542 [4797] 6 565 [5001] 13 584 [5170] 28 580 [5133] 43 570 [5047] 58 557 [4929] 74 519 [4593] 89 544 [4810] 104 523 [4630] 120 500 [4424] 135 473 [4190] 151 406 [3595] 166 397 [3512] 182 321 [2844] 197 292 [2581] 228 call Efficiency 681 [6026]	104 [1500] DLD line. 652 [5766] 5 677 [5990] 11 703 [6225] 705 [6237] 41 696 [6161] 56 684 [6052] 71 644 [5696] 86 669 [5740] 116 626 [5536] 122 600 [5311] 147 534 [4724] 164 524 [4633] 179 451 [3988] 196 383 [3387] 227 7 - 70 - 100 ⁰ 817 [7231]	Max. Cont. 121 [1750] Intermittent I 777 [6876] 4 780 [6900] 9 815 [7212] 824 [7296] 36 814 [7205] 50 805 [7123] 66 777 [6861] 775 [6861] 711 752 [6659] 127 728 [6446] 143 660 [5839] 161 650 [5755] 175 576 [5097] 93 508 [4494] % 40 953 [8436]	138 [2000] Ratings - 10% 879 [7779] 7 917 [8118] 930 [8234] 28 930 [8231] 43 924 [8175] 59 89 897 [7936] 104 876 [7753] 120 852 [7537] 136 776 [6863] 103 188 636 [5631] 219 - 69% 1090 [9642]	Max. Inter. 155 [2250] o of Operation 1012 [8956] 13 1033 [9141] 22 1041 [9210] 34 1037 [9175] 50 1008 [8946] 68 1031 [9122] 80 1013 [8968] 95 [8006] 111 972 [8606] 127 907 [8028] 148 898 [7950] 162 827 [7320] 181 761 [6738] 213 0 - 39% [1226 [10847]]	4 8 16 31 46 62 77 92 107 123 138 153 168 184 199 229	Theoretical rpm

DELIVERING THE POWER TO GET WORK DONE

white drive products



Medium Duty Hydraulic Motor

HOUSINGS

▶ Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].



▶ Dimension Y is charted on page 10. Porting options listed on pages 11-12.



Medium Duty Hydraulic Motor

HOUSINGS

Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].





▶ Dimensions Y & Z are charted on page 10. Porting options listed on pages 11-12.





Medium Duty Hydraulic Motor

TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / BEARING CURVE

The bearing curve represents allowable bearing loads for a B10 life of 2,000 hours at 100 rpm. The curve includes affects of 1.000 lbs inward/outward net thrust*. Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table below.

SAE A, SAE B & MAGNETO MOUNTS



Permissible shaft seal pressure information is found on page 17.

LENGTH & WEIGHT CHART

Dimension Y is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on pages 8 & 9.

1	SAF A & B	Magneto	
Y	Mounts	Mounts	Weight
#	mm [in]	mm [in]	kg [lb]
080	185 [7.27]	189 [7.42]	11.3 [24.9]
100	185 [7.27]	189 [7.42]	11.3 [24.9]
110	187 [7.36]	191 [7.51]	11.4 [25.1]
130	190 [7.49]	194 [7.64]	11.5 [25.3]
160	197 [7.74]	201 [7.89]	11.8 [26.0]
200	204 [8.04]	208 [8.19]	12.2 [26.8]
230	210 [8.28]	214 [8.43]	12.6 [27.7]
320	228 [8.99]	232 [9.14]	13.5 [29.7]
400	228 [8.99]	232 [9.14]	13.5 [29.7]
500	244 [9.60]	248 [9.75]	14.2 [31.2]

Add 1.2 kg [2.6 lb] to the weight listed to the right for SAE B mount housings.

Dimension Z is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed on page 9.

Ζ	Length	Weight
#	mm [in]	kg [lb]
080	145 [5.69]	12.5 [27.5]
100	145 [5.69]	12.5 [27.5]
110	147 [5.78]	12.6 [27.7]
130	150 [5.91]	12.7 [27.9]
160	157 [6.16]	13.0 [28.6]
200	164 [6.46]	13.4 [29.5]
230	170 [6.70]	13.8 [30.4]
320	188 [7.41]	14.7 [32.3]
400	188 [7.41]	14.7 [32.3]
500	204 [8.02]	15.4 [33.9]

> 350 series motor weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.

-	5500				
2	3000	BEARING	LOAD MULTIPL	ICATION FAC	TOR TABLE
	2500	RPM	FACTOR	RPM	FACTOR
		50	1.23	500	0.62
	2000	100	1.00	600	0.58
_		200	0.81	700	0.56
-	1500	300	0.72	800	0.50
비		400	0.66		
-	1000				

4.25" WHEEL MOUNT



* Case pressure will push outward on the shaft. If case drain line is attached and routed directly to tank, case pressure should be negligible. If case drain line is not attached, case pressure will be nearly the same as motor return pressure. When case pressure is acting, the allowable inward axial load can be increased and the allowable outward axial load must be decreased at a rate of 59 kg / 7 bar [130 lb / 100 psi] for shaft codes 02, 10, 12, 20, 21, 22 & 23. The rate for shaft codes 28 & 31 is 78 kg / 7 bar [175 lb / 100 psi].



Medium Duty Hydraulic Motor

PORTING

SIDE PORTED - OFFSET

Main Ports A, B: 7/8-14 UNF Drain Port C: 7/16-20 UNF

1

6

Drain Port

STANDARD





Main Ports A, B: G 1/2 2 Drain Port **C**: G 1/4

OPTIONAL



D: 10 Series/2-Way Valve Cavity 7/8-14 UNF

SIDE PORTED - 180° OPPOSED

20 [.78]-22 [.86] 27 [1.05]



Main Ports A, B: 1 1/16-12 UN

C: 7/16-20 UNF

SIDE PORTED - OFFSET MANIFOLD

в Drain Port

Main Ports A: 12.7 [.500] Drilled B: 15.9 [.625] Drilled C: 7/16-20 UNF





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Drain Port

2

Main Ports A, B: G 1/2

C: G 1/4



Medium Duty Hydraulic Motor

PORTING

END PORTED - ALIGNED



Main Ports A, B: 7/8-14 UNF

C: 7/16-20 UNF

Drain Port

1



Dimension AA is charted on page 13.



SHAFTS



Max. Torque: 881 Nm [7800 lb-in]

WS (350/351 Series) Medium Duty Hydraulic Motor

Medium Duty Hydraulic Motor

whitedriveproducts



ORDERING INFORMATION



All WS series motors have been tested per NFPA/T2.6.1-1974 in order to establish ratings for infinite housing life. These ratings are based on pressure cycles with the case drain closed. The ratings for each housing are listed below:

Mounting Option	Rated Fatigue Pressure
4-Hole Square SAE A Mount	
2-Hole SAE A, B and 4-Hole Magneto Mounts	
4 25" Wheel Mount	117 bar [1700 psi]



Medium Duty Hydraulic Motor

HOUSINGS

Dimensions shown are without paint. Paint thickness can be up to 0.13 [.005].



▶ Dimension BB is charted on page 16. Porting options listed on pages 18-19.





127.0 [5.000] 126.9 [4.995]

Medium Duty Hydraulic Motor



108.0 [4.250] 107.8 [4.245]

13.8 [.545] 13.3 [.525] 93 [3.65]



Porting options listed on pages 138-139.

LENGTH & WEIGHT CHARTS

Dimensions BB, CC & DD are the overall motor lengths from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed above as well as page 15

BB	SAE A Mounts	Magneto Mounts	Weight	CC	Length	Weight
#	mm [in]	mm [in]	kg [lb]	#	mm [in]	kg [lb]
080	193 [7.60]	197 [7.75]	10.8 [23.8]	080	153 [6.02]	12.0 [26.5]
100	193 [7.60]	197 [7.75]	10.8 [23.8]	100	153 [6.02]	12.0 [26.5]
110	196 [7.70]	200 [7.85]	11.0 [24.1]	110	155 [6.12]	12.2 [26.8]
130	199 [7.83]	203 [7.98]	11.1 [24.5]	130	159 [6.25]	12.4 [27.2]
160	205 [8.08]	209 [8.23]	11.5 [25.4]	160	165 [6.50]	12.8 [28.1]
200	213 [8.38]	217 [8.53]	11.9 [26.2]	200	173 [6.80]	13.1 [28.9]
230	219 [8.62]	223 [8.77]	12.3 [27.1]	230	179 [7.04]	13.5 [29.8]
320	237 [9.33]	241 [9.48]	13.3 [29.2]	320	197 [7.75]	14.5 [31.9]
400	237 [9.33]	241 [9.48]	13.3 [29.2]	400	197 [7.75]	14.5 [31.9]
500	252 [9.93]	256 [10.08]	14.0 [30.9]	500	212 [8.35]	15.3 [33.6]

7 [.26] 6 [.24]

47 [1.86]

> 355/356 series motor weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc.



WS (355/356 Series) Medium Duty Hydraulic Motor

TECHNICAL INFORMATION

ALLOWABLE SHAFT LOAD / BEARING CURVE

The bearing curve represents allowable bearing loads for a B10 life of 2,000 hours at 100 rpm. The curve includes affects of 1,000 lbs inward/outward net thrust (see page 10). Radial loads for speeds other than 100 rpm may be calculated using the multiplication factor table on page 10.

SAE A & MAGNETO MOUNTS



WHEEL MOUNTS



PERMISSIBLE SHAFT SEAL PRESSURE

MOTORS WITH SHAFT DIAMETERS 1-1/4" OR LESS



MOTORS WITH SHAFT DIAMETERS LARGER THAN 1-1/4"







Medium Duty Hydraulic Motor

PORTING

SIDE PORTED - OFFSET

STANDARD





Main Ports A, B: G 1/2

57 [2.25]

C: G 1/4

с

– 48 [1.90] -

Drain Port

Main Ports A, B: 7/8-14 UNF

C: 7/16-20 UNF

Drain Port

1

3

2 Main Ports A, B: G 1/2 Drain Port C: G 1/4

OPTIONAL



D: 10 Series/2-Way Valve Cavity 7/8-14 UNF

SIDE PORTED - OFFSET MANIFOLD

STANDARD



SIDE PORTED - OFFSET

- 5 Main Ports A, B: 9/16-18 UNF Drain Port C: 7/16-20 UNF

OPTIONAL

D: 10 Series/2-Way Valve Cavity 7/8-14 UNF

9 Main Ports A, B: G 3/8 Drain Port C: G 1/4







Medium Duty Hydraulic Motor

PORTING

END PORTED - ALIGNED

 1
 Main Ports
 A, B:
 7/8-14 UNF

 Drain Port
 C:
 7/16-20 UNF

2 Main Ports A, B: G 1/2 Drain Port C: G 1/4







Medium Duty Hydraulic Motor





▶ Dimension EE is charted on page 21.

hite**drive**products/

Medium Duty Hydraulic Motor

SHAFTS



MOUNTING / SHAFT LENGTH CHART

Dimension EE is the overall distance from the motor mounting surface to the end of the shaft and is referenced on detailed shaft drawings above as well as shafts on page 20.

Euro Wheel 4.25" Wheel Mounts SAE A* Mounts EE # mm [in] mm [in] mm [in] 02 51 [2.00] 88 [3.45] 91 [3.58] 10 51 [2.00] 88 [3.45] 91 [3.58] 91 [3.58] 12 51 [2.00] 88 [3.45] 20 55 [2.18] 92 [3.63] 96 [3.76] 21 65 [2.54] 101 [3.99] 105 [4.12] 22 64 [2.51] 101 [3.96] 104 [4.09] 92 [3.63] 23 55 [2.18] 96 [3.76] 28 N/A 104 [4.08] 107 [4.20] 120 [4.73] 123 [4.86] 31 N/A

 *For the magneto mount subtract 3.8 [.15] from dimension. Shaft lengths vary ± 0.8 mm [.030 in.]

Medium Duty Hydraulic Motor

white drive products



ORDERING INFORMATION





WS (357/358 Series)

Medium Duty Hydraulic Short Motor

HOUSINGS







Porting options listed on pages 18-19.

LENGTH & WEIGHT CHARTS

Dimension FF is the overall motor length from the rear of the motor to the mounting flange surface and is referenced on detailed housing drawings listed above.

357/358 series motor weights can vary ± 1kg [2 lb] depending on model configurations such as housing, shaft, endcover, options etc. "For the SG and SH mounts subtract 2.9 kg [6.3 lb].

FF	4.00" Pilot Mounts	100mm Pilot Mounts	Weight*
#	mm [in]	mm [in]	kg [lb]
080	122 [4.80]	142 [5.60]	12.5 [27.5]
100	122 [4.80]	142 [5.60]	12.5 [27.5]
110	124 [4.89]	145 [5.70]	12.6 [27.8]
130	128 [5.02]	148 [5.83]	12.8 [28.2]
160	134 [5.27]	154 [6.08]	13.3 [29.2]
200	142 [5.57]	162 [6.38]	13.6 [29.9]
230	148 [5.81]	168 [6.62]	14.0 [30.8]
320	166 [6.52]	186 [7.33]	15.0 [32.9]
400	166 [6.52]	186 [7.33]	15.0 [32.9]
500	181 [7,12]	201 [7.93]	15.8 [34.7]

WS (357/358 Series)





Medium Duty Hydraulic Short Motor

SHAFTS

00 Cardan (For Use With SG & SH Mounts)

Fillet Root Side Fit	
Number of Teeth	
Pitch	
Pressure Angle	
Pitch Diameter D	
Major Diameter Dri	
Form Diameter (Min.) Dfj	
Minor Diameter Di	23.033 [.9068] - 23.0 [.9055]
Space Width (Circular) Lo*	.4.328 [.1704] - 4.288 [.1688]
Tooth Thickness (Circular) So	2.341 [.09217]
Fillet Radius R min	
Max. Distance Between Pins I	17.77 [.700] - 17.62 [.694]
Pin Diameter d4	.836 [.19034] - 4.834 [.19026]



П

O-Ring

Internal involute spline data per ANSI B92.1-1970, class 5 (corrected m • X = 0.8; m = 2.1166)

The recommended shaft material is SAE 8620 or similar case hardening steel such as 20 MoCr4 (900 N/mm²) hardened to 59 - 62 HRc to a depth of 0.762 - 1.016 [.030 - .040]. *Dimensions apply after heat treatment.

0B Cardan (For Use With S2 & S8 Mounts)

Fillet Root Side Fit	
Number of Teeth	
Pitch	
Pressure Angle	
Pitch Diameter D	
Base Diameter	
Major Diameter Dri	27.74 [1.092] - 27.59 [1.086]
Form Diameter (Min.) Dfi	
Minor Diameter Di	.23.224 [.9143] - 23.097 [.9093]
Space Width (Circular) Lo*	
Max. Actual	
Min. Effective	
Fillet Radius R	0.76 [.030] - 0.64 [.025]
Max. Distance Between Pins I	.19.190 [.7555] - 19.020 [.7488]
Pin Diameter d	

with 3.38 [.133] Flat for Root Clearance.

The recommended shaft material is SAE 8620 or similar case hardening steel such as 20 MoCr4 (900 N/mm²) hardened to 59 - 62 HRc to a depth of 0.762 - 1.016 [.030 - .040].
*Dimensions apply after heat treatment.

SPECIFICATIONS (REDUCED TORQUE & PRESSURE RATINGS)*

CODE	DE Displacement		Displacement m ³ [in ³ /rov]		Max. Flow Max. Torque lpm [gpm] Nm [lb-in]			Max. Pressure bar [psi]		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
080	79 [4.78]	870	1060	61 [16]	68 [18]	207 [1832]	274 [2425]	207 [3000]	275 [3990]	276 [4000]
100	100 [6.10]	745	880	76 [20]	95 [25]	280 [2475]	390 [3450]	207 [3000]	275 [3990]	295 [4280]
110	112 [6.85]	675	840	76 [20]	95 [25]	307 [2715]	418 [3700]	207 [3000]	275 [3990]	295 [4280]
130	129 [7.86]	580	730	76 [20]	95 [25]	370 [3275]	490 [4340]	207 [3000]	275 [3990]	295 [4280]
160	162 [9.90]	465	700	76 [20]	114 [30]	462 [4090]	600 [5310]	207 [3000]	260 [3770]	280 [4060]
200	202 [12.31]	375	560	76 [20]	114 [30]	576 [5100]	720 [6370]	207 [3000]	250 [3630]	270 [3920]
230	228 [13.92]	325	490	76 [20]	114 [30]	642 [5685]	806 [7135]	207 [3000]	250 [3630]	270 [3920]
320	325 [19.81]	235	350	76 [20]	114 [30]	789 [6980]	990 [8760]	190 [2750]	224 [3250]	259 [3750]
400	399 [24.36]	190	280	76 [20]	114 [30]	816 [7225]	990 [8760]	155 [2250]	190 [2750]	210 [3050]
500	496 [30.29]	155	230	76 [20]	114 [30]	824 [7295]	990 [8760]	121 [1750]	140 [2030]	160 [2320]

Performance data is typical. Performance of production units varies slightly from one motor to another. Running at intermittent ratings should not exceed 10% of every minute of operation. *Derated performance values due to a smaller drive link used in the 357/358 series motors.







The 357 & 358 series using the same porting options as the 355 & 356.

WS (357/358 Series) Medium Duty Hydraulic Short Motor

		3b 4 5 6 7 8			
1. CHOOSE SERIES DESIGN	ATION	4. SELECT A SHAFT OPTION			
357 Clockwise Rotation	358 Counterclockwise Rotation	00 Cardan 0B Cardan			
		 The 00 shaft is used with SG & SH mounts only and the 0B with S2 & S8 mounts only. 5. SELECT A PAINT OPTION Z No Paint 			
		6. SELECT A VALVE CAVITY / CARTRIDGE OPTION			
The 357 & 358 series are bi-directional. Reve C. SELECT A DISPLACEMENT	T OPTION	ANoneF121 bar [1750 psi] ReliefBValve Cavity OnlyG138 bar [2000 psi] ReliefC69 bar [1000 psi] ReliefI173 bar [2500 psi] Relief			
080 78 cm³/rev [4.8 in³/rev] 100 100 cm³/rev [6.1 in³/rev] 110 112 cm³/rev [6.9 in³/rev] 120 120 cm³/rev [7.0 in³/rev]	200 202 cm³/rev [12.3 in³/rev] 230 228 cm³/rev [13.9 in³/rev] 320 325 cm³/rev [19.8 in³/rev] 400 300 cm³/rev [24.4 in³/rev]	 D 86 bar [1250 psi] Relief E 104 bar [1500 psi] Relief Valve cavity is only available on side ports 1, 2 and 3. 			
160 162 cm ³ /rev [9.9 in ³ /rev]	500 496 cm ³ /rev [30.3 in ³ /rev]	7. SELECT AN ADD-ON OPTION			
3a. SELECT MOUNT TYPE	3b. SELECT PORT SIZE	A Standard			
END MOUNT	END PORT OPTIONS	8. SELECT A MISCELLANEOUS OPTION			
S24-Hole, 4.00" Pilot MountSG4-Hole, 100mm Pilot Mount	1 7/8-14 UNF Aligned 2 G 1/2 Aligned	AA None			
▼ SIDE MOUNT	▼ SIDE PORT OPTIONS				
S84-Hole, 4.00" Pilot MountSH4-Hole, 100mm Pilot Mount	 7/8-14 UNF, Offset G 1/2, Offset G 1/2, Offset Manifold 9/16-18 UNF, Offset C 2/8, Offset 				

ORDERING INFORMATION

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